UET Narowal Campus

University of Engineering and Technology, Lahore

SCHEME OF STUDIES FOR BE/BS (4 YEARS) IN
BIOMEDICAL ENGINEERING
Applicable From 2020 Session

Semester 1			
Course Name & Code	Theory	Lab	Total
Applied Physics (PHY-111)	2	1	3
Introduction to Computing (CS-141)	3	1	4
Basic Electrical & Electronics Engineering (EE-199)	3	1	4
Basic Biology (BME-104)/Basic Mathematics (MA-110)	2,3	1,0	3
International Language	0	0	0
Introduction of Biomedical Engineering (BME-101)	1	0	1
Islamic & Pak Studies 1 (IS-101)	3	0	3
Total	**14/15**	**4/3**	**18**
Semester 2			
Course Name & Code	Theory	Lab	Total
Human Anatomy (BME-103)	2	1	3
Calculus & Analytical Geometry (MA-113)	3	0	3
Physiology 1 (BME-102)	2	1	3
Circuit Analysis (EE-110)	3	1	4
Programming Fundamentals (CS-142)	3	1	4
Engineering Drawing (ME-124L)	0	1	1
Total	**13**	**5**	**18**
Semester 3			
Course Name & Code	Theory	Lab	Total
Linear Algebra & Differential Equations (MA-116)	3	0	3
Physiology 2 (BME-201)	2	1	3
Biochemistry (BME-214)	2	1	3
Semiconductor Devices (EE-212)	3	1	4
Workshop Practice (ME100L)	0	1	1
Communication Skills (HU-111L)	0	1	1
Islamic & Pak Studies 2 (IS-201)	3	0	3
Total	**13**	**5**	**18**
Semester 4			
Course Name & Code	Theory	Lab	Total
Biomedical Electronics (BME-213)	2	1	3
Digital Logic Design (CSE-221)	3	1	4
Complex Variable & Transform (MA-221)	3	0	3
Cellular & Molecular Biology (BME-202)	2	1	3

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Course Name & Code	Theory	Lab	Total
Signals & Systems (EE-220)	3	0	3
Total	**13**	**3**	**16**

Semester 5			
Course Name & Code	**Theory**	**Lab**	**Total**
Biomedical Instrumentation 1 (BME-310)	2	1	3
Applied Probability & Statistics (EE-320)	3	0	3
Numerical Methods (MA-346)	3	0	3
Microprocessor Systems (EE-273)	3	1	4
Biomaterials (BME-313)	2	1	3
Total	**13**	**3**	**16**
Semester 6			
Course Name & Code	**Theory**	**Lab**	**Total**
Biomedical Instrumentation 2(BME-318)	2	1	3
Technical Elective 1 (BME-XXX)	3	0	3
Control Systems (EE-340)	3	1	4
Biomedical Modeling & Simulation (BME-244)	2	1	3
Biomechanics (BME-212)	2	1	3
Total	**12**	**4**	**16**
Semester 7			
Course Name & Code	**Theory**	**Lab**	**Total**
Management Elective 1 (MGT-XXX)	3	0	3
Medical Imaging (BME-411)	2	1	3
Technical Elective 2 (BME-XXX)	3	0	3
Technical Elective 3 (BME-XXX)	3	0	3
Technical Writing & Presentation Skills (HU-221)	3	0	3
Biomedical Engineering Project Phase 1 (BME-412a)	0	3	3
Total	**14**	**4**	**18**
Semester 8			
Course Name & Code	**Theory**	**Lab**	**Total**
Technical Elective 4 (BME-XXX)	3	0	3
Social & Ethical Aspects in Engineering (IME-251)	2	0	2
Technical Elective 5 (BME-XXX)	3	0	3
Management Elective 2 (MGT-XXX)	3	0	3
Biomedical Engineering Project Phase 2 (BME-412b)	0	3	3
Total	**11**	**3**	**14**

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Technical Electives

Course Name	Course Code	(Cr's) Theory	(Cr's) Lab	Total Cr's
Bioelectricity	BME-314	3	0	3+0
Power Electronics	EE-392	2	1	2+1
Rehabilitation and Sports Medicine	BME-433	2	1	2+1
Biomedical Robotics	BME-414	2	1	2+1
Bio fluid Mechanics	BME-415	2	1	2+1
Bioinformatics	BME-416	3	0	3+0
Artificial Intelligence	CS-361	3	1	3+1
Hospital Information Management Systems	BME-418	3	0	3+0
Medical Device Quality Systems and Standards	BME-419	3	0	3+0
Medical Image Processing	BME-420	2	1	2+1
Telemedicine Systems	BME-423	2	1	2+1
Biophysics	BME-421	2	1	2+1
DNA Computing	BME-425	3	0	3+0
Drug Delivery Systems	BME-316	3	0	3+0
Genetic Engineering	BME-444	3	0	3+0
Neuroscience & Neural Networks	BME-432	3	0	3+0
Regenerative Medicine	BME-426	3	0	3+0
Tissue Engineering	BME-427	3	0	3+0
Computational Fluid Dynamics	BME-317	3	0	3+0

Management Electives

Course Title	Course Code	Credit Hours (Cr's)
Principles of Management	MGT 211	3+0
Production and Operations	MGT 310	3+0

Management		
Total Quality Management	MGT 313	3+0
Entrepreneurship and Business Management	MGT 414	3+0
Engineering Economics	MGT 460	3+0
Project Management	MGT 410	3+0